

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331727-830

Luminaire Tested: **SA2XXRDIP-C865D925U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331727-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C865D925U830-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

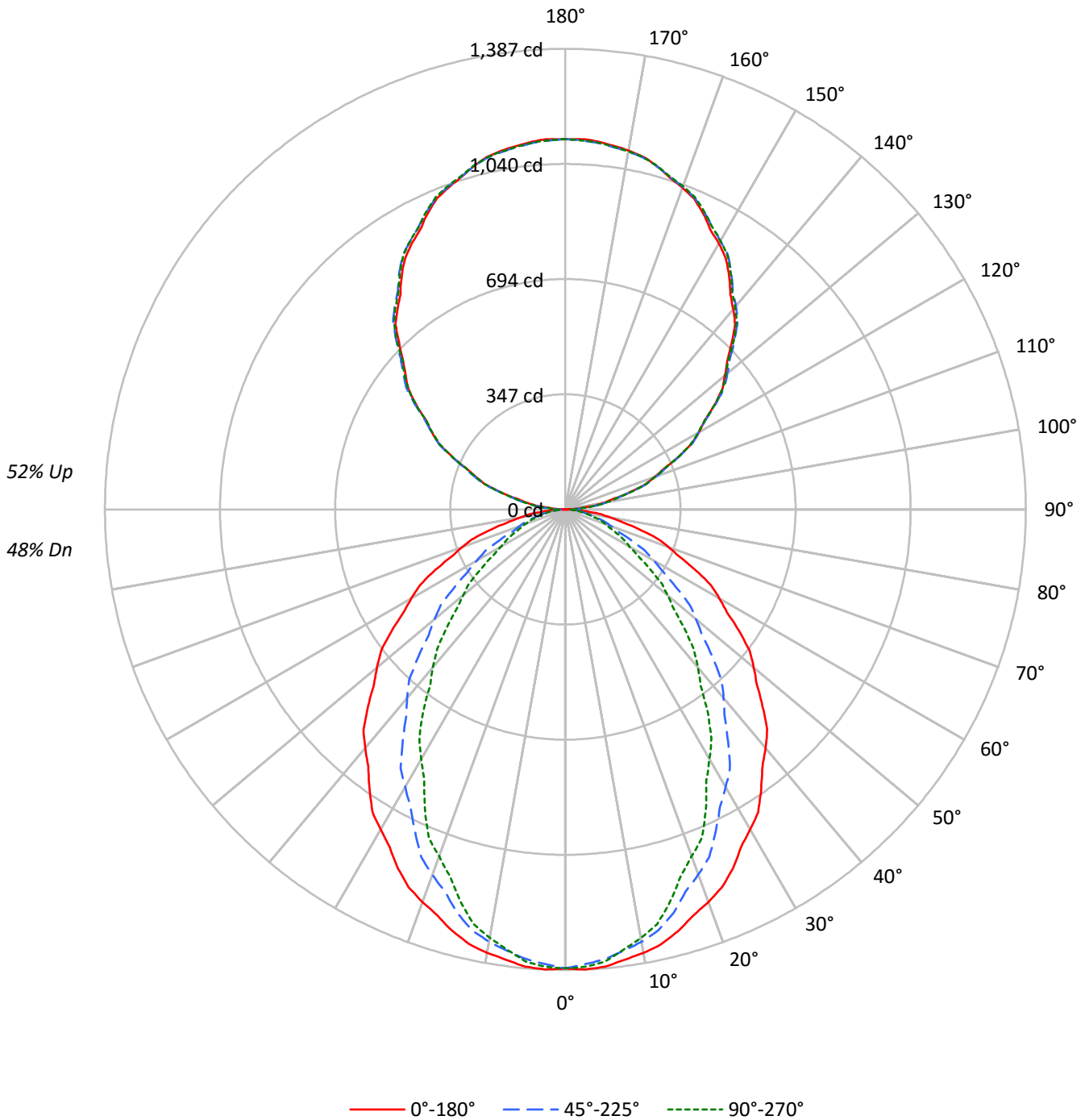
Lumens per Lamp: N/A
Luminaire Lumens: 5963.6 lumens
Efficiency: N/A
Efficacy: 98.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	48
1	98	94	90	87	90	86	83	80	73	70	68	60	58	57	48	47	46	41
2	89	82	76	71	82	76	71	67	64	60	57	53	51	48	43	41	40	35
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	39	36	34	30
4	75	65	57	51	69	60	53	48	51	46	42	43	39	36	35	32	30	26
5	69	58	50	44	63	54	47	42	46	40	36	38	34	31	32	29	26	23
6	64	52	44	38	59	48	41	36	41	36	32	35	31	28	29	26	24	21
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21	18
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	17
9	51	39	32	27	47	37	30	26	32	26	23	27	23	20	23	20	17	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22315	22315	22315
5°	22400	22034	22156
10°	22228	21674	21489
15°	21972	21031	20425
20°	21618	20113	19105
25°	21257	19073	17826
30°	20752	18000	16183
35°	20262	16837	14741
40°	19770	15633	13076
45°	19192	14280	11565
50°	18600	12913	10083
55°	17990	11443	8659
60°	17286	9894	7188
65°	16485	8313	6548
70°	15526	6850	6019
75°	14361	6245	5614
80°	12673	5579	5114
85°	9967	4409	4409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	2.2
10°-20°	355.2	6.0
20°-30°	498.8	8.4
30°-40°	543.9	9.1
40°-50°	500.1	8.4
50°-60°	392.8	6.6
60°-70°	256.1	4.3
70°-80°	132.0	2.2
80°-90°	38.7	0.6
90°-100°	70.6	1.2
100°-110°	219.4	3.7
110°-120°	375.0	6.3
120°-130°	493.1	8.3
130°-140°	553.4	9.3
140°-150°	542.7	9.1
150°-160°	455.2	7.6
160°-170°	301.9	5.1
170°-180°	105.5	1.8
0°-30°	983.3	16.5
0°-40°	1527.2	25.6
0°-60°	2420.1	40.6
0°-90°	2846.9	47.7
90°-120°	665.0	11.2
90°-150°	2254.1	37.8
90°-180°	3117.0	52.3
0°-180°	5963.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1382	1375	1360	1370	1367	131
15°	1314	1299	1258	1235	1222	370
25°	1193	1151	1071	1021	1001	548
35°	1028	962	854	778	748	643
45°	840	754	625	540	506	649
55°	639	539	406	334	308	571
65°	432	330	218	177	171	428
75°	230	145	100	92	90	244
85°	54	29	24	24	24	63
90°	1	13	33	31	32	5
95°	49	58	60	60	58	56
105°	202	205	207	209	209	214
115°	376	381	380	379	376	372
125°	547	555	553	550	549	489
135°	708	718	720	719	717	547
145°	860	866	872	873	869	537
155°	983	986	988	993	990	452
165°	1070	1069	1069	1074	1070	301
175°	1113	1110	1108	1114	1109	106
180°	1115	1115	1115	1115	1115	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1387.0	1385.9	1384.8	1383.7	1382.6	1380.8	1378.4	1375.9	1373.5	1371.0	1373.3
5°	1382.1	1380.6	1379.2	1377.8	1376.5	1373.9	1370.4	1366.8	1363.1	1359.5	1362.0
7.5°	1367.7	1366.0	1364.3	1362.6	1360.8	1357.9	1353.7	1349.4	1345.2	1341.0	1341.7
10°	1355.8	1353.8	1351.9	1349.9	1347.9	1344.3	1338.7	1333.1	1327.6	1322.0	1321.2
12.5°	1340.8	1338.3	1336.0	1333.6	1331.2	1326.4	1319.3	1312.2	1305.0	1298.0	1296.5
15°	1314.5	1311.5	1308.3	1305.3	1302.2	1296.0	1286.6	1277.1	1267.6	1258.2	1252.9
17.5°	1282.2	1277.5	1272.9	1268.2	1263.6	1255.2	1243.0	1230.9	1218.8	1206.6	1200.4
20°	1258.2	1252.6	1247.1	1241.5	1236.0	1226.2	1212.3	1198.4	1184.6	1170.6	1163.7
22.5°	1232.2	1226.0	1219.7	1213.5	1207.3	1196.4	1180.6	1165.0	1149.3	1133.6	1124.6
25°	1193.2	1184.3	1175.4	1166.5	1157.6	1144.0	1125.6	1107.3	1088.9	1070.6	1059.2
27.5°	1146.1	1136.4	1126.8	1117.1	1107.5	1092.3	1071.6	1050.9	1030.2	1009.6	996.3
30°	1113.1	1102.6	1092.0	1081.5	1070.9	1054.5	1032.3	1010.0	987.8	965.5	951.4
32.5°	1081.1	1068.7	1056.4	1044.1	1031.7	1014.3	991.6	968.8	946.2	923.5	907.4
35°	1028.0	1013.9	999.8	985.5	971.4	952.1	927.6	903.1	878.7	854.2	836.7
37.5°	975.1	959.5	944.0	928.3	912.8	891.9	865.9	839.8	813.8	787.7	768.4
40°	938.0	921.3	904.7	888.0	871.3	849.5	822.6	795.6	768.6	741.7	721.9
42.5°	900.0	882.4	864.9	847.3	829.7	807.0	779.2	751.3	723.5	695.6	675.2
45°	840.5	821.8	803.2	784.6	766.0	742.1	712.9	683.7	654.5	625.4	605.6
47.5°	782.4	762.7	743.0	723.2	703.5	678.5	648.5	618.3	588.1	558.1	538.5
50°	740.5	720.7	701.0	681.2	661.5	636.3	605.8	575.1	544.6	514.1	494.8
52.5°	699.4	678.7	658.2	637.5	616.9	591.6	561.8	531.8	501.9	472.0	453.5
55°	639.1	617.5	595.8	574.1	552.4	526.5	496.5	466.5	436.5	406.5	389.8
57.5°	577.3	555.1	532.8	510.6	488.4	462.9	433.9	405.1	376.3	347.4	332.2
60°	535.3	513.0	490.9	468.6	446.4	420.9	392.3	363.6	335.1	306.4	292.3
62.5°	494.3	472.0	449.8	427.5	405.3	380.6	353.3	326.0	298.7	271.4	257.9
65°	431.5	409.0	386.4	363.9	341.5	317.6	292.7	267.7	242.6	217.6	208.2
67.5°	371.0	348.6	326.3	303.9	281.5	259.1	236.7	214.1	191.6	169.1	164.8
70°	328.9	307.3	285.6	263.9	242.2	221.8	202.6	183.4	164.3	145.1	142.3
72.5°	288.9	268.2	247.3	226.6	205.8	187.7	172.3	156.8	141.5	126.1	123.8
75°	230.2	210.7	191.2	171.7	152.3	137.9	128.4	118.9	109.5	100.1	98.1
77.5°	172.4	155.2	138.2	121.1	104.1	93.3	88.7	84.2	79.6	75.0	73.9
80°	136.3	122.2	108.0	93.8	79.6	71.2	68.3	65.6	62.8	60.0	58.9
82.5°	103.3	92.3	81.2	70.1	59.1	52.6	50.7	48.8	46.9	45.1	44.4
85°	53.8	48.0	42.1	36.3	30.4	27.1	26.3	25.4	24.6	23.8	23.8
87.5°	16.2	14.9	13.7	12.3	11.1	10.9	11.9	12.7	13.7	14.6	14.3
90°	0.9	3.5	5.9	8.5	10.9	14.5	19.1	23.8	28.3	32.9	32.5
92.5°	16.8	18.6	20.5	22.2	24.1	25.5	26.7	27.7	28.8	29.9	30.0
95°	48.9	51.0	53.1	55.1	57.3	58.5	58.9	59.4	59.8	60.2	60.2
97.5°	89.4	91.2	93.0	94.9	96.7	98.0	98.9	99.6	100.4	101.2	101.2
100°	119.4	121.1	122.8	124.5	126.1	127.3	127.9	128.6	129.2	129.8	129.8
102.5°	151.1	152.4	153.7	155.0	156.4	157.5	158.3	159.1	159.9	160.7	160.8
105°	202.3	202.8	203.5	204.2	204.7	205.3	205.7	206.1	206.5	206.9	207.4
107.5°	253.7	254.7	255.6	256.6	257.5	257.9	257.9	257.9	257.9	257.9	258.1
110°	286.9	288.1	289.4	290.7	291.9	292.6	292.6	292.6	292.6	292.6	292.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	323.0	324.2	325.6	326.8	328.0	328.6	328.4	328.2	328.1	327.9	327.4
115°	376.3	377.5	378.7	380.0	381.3	381.6	381.3	380.9	380.4	380.0	379.8
117.5°	429.3	430.9	432.6	434.3	436.0	436.2	435.1	433.9	432.7	431.6	431.0
120°	464.7	466.4	468.0	469.7	471.4	471.4	469.7	468.0	466.4	464.7	464.7
122.5°	497.0	499.0	501.1	503.0	505.0	505.5	504.3	503.1	502.0	500.8	500.3
125°	547.4	549.3	551.2	553.1	555.0	555.6	555.0	554.3	553.7	553.1	552.4
127.5°	596.5	598.9	601.3	603.7	606.1	606.9	606.1	605.4	604.6	603.9	603.1
130°	627.4	630.1	632.8	635.6	638.3	639.4	638.9	638.6	638.2	637.7	637.3
132.5°	662.0	664.2	666.5	668.6	670.9	672.0	672.1	672.2	672.2	672.3	671.5
135°	708.3	710.6	712.8	715.2	717.5	718.9	719.3	719.6	720.1	720.5	720.3
137.5°	757.1	758.8	760.7	762.6	764.5	765.7	766.3	766.9	767.4	767.9	767.8
140°	786.4	788.2	790.1	792.0	793.9	795.3	796.4	797.4	798.5	799.6	799.6
142.5°	816.4	818.3	820.2	822.1	824.0	825.3	826.0	826.7	827.4	828.1	828.3
145°	859.7	861.2	862.6	864.1	865.5	867.0	868.2	869.4	870.7	871.9	872.1
147.5°	898.2	900.0	901.8	903.5	905.3	906.6	907.5	908.2	909.1	909.9	910.4
150°	924.6	925.9	927.1	928.4	929.6	930.7	931.5	932.4	933.2	934.1	934.6
152.5°	947.9	949.2	950.5	951.7	953.0	954.1	955.1	956.1	957.1	958.1	958.9
155°	983.0	983.5	984.2	984.9	985.4	986.1	986.7	987.3	988.0	988.5	989.7
157.5°	1012.9	1013.2	1013.7	1014.1	1014.6	1014.9	1015.3	1015.7	1016.1	1016.4	1017.9
160°	1031.0	1031.3	1031.7	1032.2	1032.6	1032.9	1033.1	1033.3	1033.5	1033.7	1035.0
162.5°	1047.4	1047.5	1047.6	1047.7	1047.8	1047.9	1048.2	1048.4	1048.6	1048.8	1050.2
165°	1069.5	1069.3	1069.0	1068.8	1068.7	1068.6	1068.6	1068.6	1068.6	1068.6	1070.0
167.5°	1087.9	1087.3	1086.7	1086.0	1085.4	1085.1	1085.1	1085.0	1085.0	1084.9	1086.4
170°	1097.7	1097.0	1096.5	1095.8	1095.1	1094.8	1094.6	1094.4	1094.1	1093.9	1095.4
172.5°	1104.5	1103.8	1103.2	1102.6	1101.9	1101.5	1101.4	1101.1	1100.9	1100.7	1102.2
175°	1112.8	1112.1	1111.4	1110.9	1110.2	1109.7	1109.3	1108.9	1108.4	1108.1	1109.5
177.5°	1116.2	1115.6	1115.1	1114.7	1114.1	1113.7	1113.3	1113.0	1112.7	1112.4	1113.3
180°	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1375.5	1377.7	1379.9	1380.8	1380.4	1379.9	1379.5	1379.0
5°	1364.5	1367.0	1369.5	1370.4	1369.5	1368.7	1367.8	1367.0
7.5°	1342.5	1343.1	1343.9	1343.5	1342.1	1340.7	1339.2	1337.8
10°	1320.3	1319.5	1318.6	1317.4	1315.7	1314.1	1312.4	1310.7
12.5°	1295.0	1293.5	1291.9	1289.9	1287.0	1284.3	1281.5	1278.7
15°	1247.6	1242.4	1237.1	1233.0	1230.3	1227.5	1224.7	1221.9
17.5°	1194.1	1187.8	1181.6	1176.0	1171.2	1166.5	1161.7	1156.9
20°	1156.8	1149.8	1142.8	1136.3	1130.2	1124.1	1117.9	1111.9
22.5°	1115.8	1106.8	1097.9	1091.1	1086.6	1081.9	1077.4	1072.9
25°	1047.8	1036.4	1025.0	1017.2	1013.0	1008.9	1004.8	1000.6
27.5°	983.0	969.7	956.4	946.5	939.9	933.2	926.6	920.0
30°	937.2	923.0	908.8	898.0	890.5	883.0	875.5	868.0
32.5°	891.2	875.0	858.8	847.2	840.2	833.1	826.0	819.0
35°	819.2	801.7	784.2	772.4	766.3	760.2	754.0	747.9
37.5°	749.1	729.8	710.6	697.4	690.4	683.3	676.4	669.4
40°	702.2	682.5	662.7	649.2	642.1	634.8	627.5	620.4
42.5°	654.9	634.4	614.1	600.3	593.3	586.4	579.3	572.3
45°	585.9	566.2	546.4	533.2	526.5	519.9	513.2	506.5
47.5°	518.8	499.2	479.6	466.7	460.7	454.6	448.6	442.5
50°	475.7	456.5	437.3	424.8	419.0	413.1	407.3	401.4
52.5°	435.0	416.5	397.9	386.1	380.6	375.2	369.9	364.5
55°	373.2	356.5	339.8	328.8	323.5	318.2	312.9	307.6
57.5°	316.9	301.6	286.3	276.4	272.0	267.5	263.1	258.6
60°	278.1	263.9	249.7	240.4	235.9	231.5	227.1	222.6
62.5°	244.4	230.9	217.4	209.2	206.6	204.0	201.2	198.6
65°	198.7	189.3	179.8	174.7	173.8	173.1	172.2	171.4
67.5°	160.4	156.1	151.7	149.1	148.3	147.3	146.5	145.6
70°	139.5	136.8	133.9	132.1	130.9	129.8	128.7	127.5
72.5°	121.4	119.0	116.7	115.3	114.5	113.9	113.2	112.5
75°	96.1	94.3	92.3	91.1	90.9	90.6	90.3	90.0
77.5°	72.9	71.7	70.6	69.8	69.4	68.9	68.5	68.1
80°	57.8	56.7	55.6	55.0	55.0	55.0	55.0	55.0
82.5°	43.7	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
87.5°	13.9	13.7	13.4	13.2	13.3	13.3	13.4	13.4
90°	32.0	31.7	31.3	31.1	31.4	31.6	31.8	32.0
92.5°	30.1	30.2	30.3	30.3	30.3	30.3	30.4	30.4
95°	60.2	60.2	60.2	59.9	59.6	59.2	58.7	58.3
97.5°	101.2	101.2	101.2	101.2	101.1	101.1	101.0	101.0
100°	129.8	129.8	129.8	129.7	129.5	129.3	129.0	128.8
102.5°	161.0	161.2	161.4	161.3	161.1	160.9	160.7	160.5
105°	207.7	208.2	208.6	208.8	208.8	208.8	208.8	208.8
107.5°	258.3	258.4	258.5	258.2	257.2	256.3	255.3	254.3
110°	292.6	292.6	292.6	292.2	291.6	291.0	290.3	289.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	326.9	326.4	325.9	325.4	325.0	324.5	324.0	323.6
115°	379.6	379.4	379.2	378.7	378.1	377.5	376.8	376.3
117.5°	430.6	430.1	429.5	429.0	428.4	427.7	427.1	426.5
120°	464.7	464.7	464.7	464.4	463.7	463.1	462.5	461.8
122.5°	499.7	499.3	498.8	498.3	497.9	497.4	496.9	496.4
125°	551.9	551.2	550.5	550.2	550.0	549.7	549.5	549.3
127.5°	602.4	601.6	600.9	600.1	599.5	598.8	598.1	597.5
130°	636.9	636.5	636.0	635.5	634.6	633.8	632.9	632.1
132.5°	670.5	669.6	668.6	667.9	667.2	666.6	665.9	665.2
135°	720.1	719.9	719.6	719.3	718.6	718.0	717.4	716.7
137.5°	767.6	767.4	767.2	766.8	765.9	765.1	764.2	763.4
140°	799.6	799.6	799.6	799.1	798.2	797.4	796.6	795.8
142.5°	828.5	828.6	828.8	828.5	827.6	826.8	826.0	825.1
145°	872.3	872.6	872.8	872.5	871.7	870.8	870.0	869.1
147.5°	910.9	911.3	911.8	911.6	910.9	910.0	909.3	908.4
150°	935.3	935.9	936.5	936.5	935.9	935.3	934.6	934.1
152.5°	959.7	960.5	961.3	961.3	960.5	959.7	958.9	958.1
155°	990.7	991.7	992.8	993.0	992.3	991.7	991.1	990.4
157.5°	1019.3	1020.7	1022.1	1022.3	1021.3	1020.3	1019.3	1018.3
160°	1036.2	1037.5	1038.8	1039.0	1038.1	1037.3	1036.4	1035.6
162.5°	1051.6	1053.0	1054.4	1054.7	1053.7	1052.6	1051.7	1050.7
165°	1071.5	1072.9	1074.4	1074.6	1073.6	1072.5	1071.5	1070.4
167.5°	1087.8	1089.3	1090.7	1090.9	1089.9	1088.7	1087.7	1086.6
170°	1096.8	1098.3	1099.8	1099.9	1098.6	1097.4	1096.1	1094.9
172.5°	1103.6	1105.1	1106.5	1106.6	1105.4	1104.2	1102.9	1101.6
175°	1111.0	1112.4	1113.9	1114.0	1112.8	1111.4	1110.2	1109.0
177.5°	1114.4	1115.4	1116.3	1116.3	1115.4	1114.4	1113.3	1112.4
180°	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7	1114.7

(END OF REPORT)